

HiLASE Centre is pleased to invite you to attend the seminar

An overview of energy and material transport in high power laser matter interaction: the industry challenge

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The development of the new laser technologies is being driven by industrial demand for high repetition rate, high beam quality and high average/peak power. One only needs to take a casual stroll through any photonics conference to appreciate that there have been startling developments in such laser sources in recent years. Despite these advances, industrial laser process designers still rely heavily on large parametric sweeps, while quality control still relies on post-process evidence.

From the industrial point of view, these advances have opened up a vast parameter space that is often overwhelming, with near infinite choice of parameters in any practical terms; this poses a problem for both laser designers and laser users. In this seminar, we will:

1. Examine the dynamics of **laser-material interactions as a system**, and the role laser parameters play on the dynamics of the system
2. Showcase the latest developments **in ultra-high frame pulsed digital holographic interferometry** and its application in laser-matter interaction diagnostics
3. Give an example of how our holographic system can be **used for process optimisation**, and
4. Consider how a fundamental understanding of process dynamics can be applied not only to improve the processes, but also **to inform laser design**.

When: Friday, **24/11/2017 at 3:00 PM**

Where: seminar room, HiLASE Centre